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NATURE STUDY IN THE KINDERGARTEN

Nature experiences in the kindergarten are the outgrowth of contact with materials brought into the room by teachers or pupils, or from the observations made during frequent walks in the park and trips to the country. In the park, easily accessible are a zoo, large bird-house, conservatory, fountain, garden, the Academy of Sciences, and the lake shore within a distance of four blocks. The children are frequently in the country for week-ends, besides spending the summer months on farms, at the seashore, or in the mountains. The rich background thus furnished, with the immediate kindergarten environment, affords splendid opportunities for developing definite nature imagery. The collecting instinct is much weaker in children of kindergarten age than the instinct to play, but they do like to pick up things and take them to some interested person, teacher or parent. Naturally, they do not know what to do with their collections, and this is where the teacher should take hold of the budding instinct and strengthen it in every legitimate way. We make use of every appropriate means of expression to help the children build up well-defined images of the essential elements of their observations. The older children can express more than the younger ones, but a given experience is common to all through conversation, songs, stories, pictures, specimens, and games. The principal nature centers we follow for a little way are given herewith, together with the activities associated with them.

Leaves.—The first center growing out of our walks is that of the falling leaves. We obtain brightly colored leaves with which to work, and make the impression through the activities of drawing, cutting, painting, and clay impressions. Appropriate songs are used, and the poem, *How the Leaves Come Down.*

Rain.—Rain is talked about on some of the first rainy days. We ask such questions as: Where does it come from? What does it do for us? Who likes it? Rhymes and poems about the rain are said, songs about the rain are sung, and the story of *How we First Came to Have Umbrellas* is told. The story is illustrated with clay or by drawings. Pictures of a rainy day are drawn on the blackboard or on paper.

Bulbs.—Bulbs for indoor blooming are planted in October. It is usually the first contact with bulbs that the children have ever had. The work consists of sifting the earth, mixing in fertilizer, and properly planting paper-white narcissus and daffodil bulbs. Drawings and models of the bulbs are made. Drawings are made of the narcissus and daffodils when in bloom, and plaques of the daffodils are modeled for paper-weights.

PREPARING THE WINDOW BOXES FOR BULBS

The Fall Harvest.—The harvest idea is built upon the children's summer experiences upon the farms, which we vivify by pictures and concrete materials. We emphasize what we get from gardens, orchards, and fields. We talk about places of storing, using the barn as the chief center, and how supplies reach our homes through the grocery, by trains, and by boats. We model the better known vegetables and fruits; build barns and bins in which to store the modeled fruits and vegetables; lay out a farm in a sand-tray, and make individual farms on smaller trays. Jelly is made as a sample of the way fruit is stored in our city homes. Stories embodying the ingathering idea are told and illustrated, and harvest songs are sung.

Seeds.—The seed we usually emphasize is the milkweed, the pods of which we model, and later we let the seeds fly outdoors. Beyond this simple experience, seeds make almost no appeal to children of kindergarten age.

WINTER QUARTER

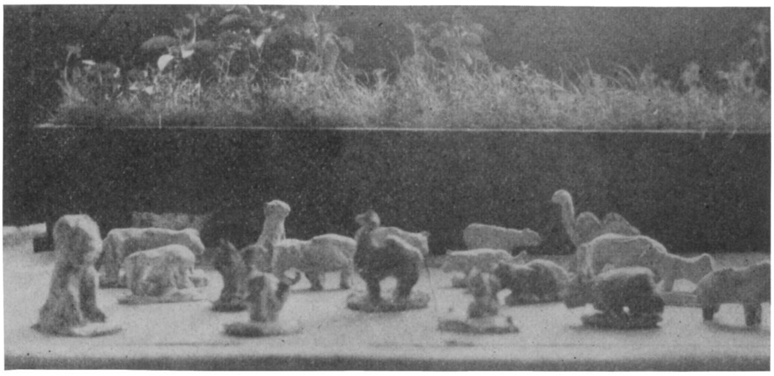
Winter Sports.—With the first good snow in January, we begin active winter sports, such as tobogganing, sliding on sleds and ice, making snow men, and shoveling snow. We look for tracks in the snow and observe frost pictures and snow crystals. We build toboggans with large blocks, make wooden sleds large enough to use, and make snow men out doors. Pictures are used to show many kinds of winter sports other than children can play, the aim being to em-

PUTTING ON THE FINISHING TOUCHES

phasize the fun winter affords. We have good songs about snowflakes and snow men, and poems and stories that tell about winter time.

A GAME OF FOX AND GEESE

Animal Life.—Winter walks take us often to the animal- and bird-house. As a center of interest for several weeks, the animals we like best are used. These are the elephant, bear, lion, tiger, giraffe, and camel. The making of a zoo is the unifying purpose, and under its stimulus the animals are modeled, cut free hand, drawn on the board, and painted. Cages are made from pasteboard boxes. Good pictures of the animals are cut out, mounted on cardboard, and then



ANIMALS MODELED BY THE CHILDREN

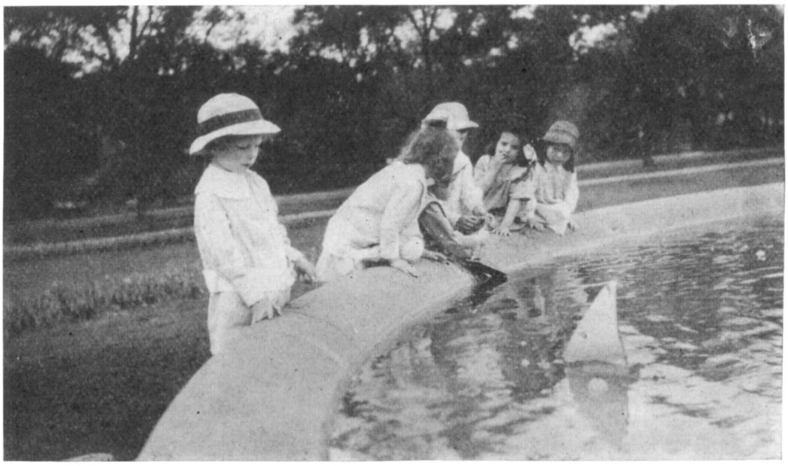
on small blocks, so they can be used to play with, as the clay models are too fragile for this purpose. Good mounted pictures of the animals are about the room; songs about bears, elephants and tigers are sung, and animal stories and anecdotes are told. The children choose any animal they like, and as many as they like, which stimulates observation.

Sun.—Some time in March, when the power of the sun begins to be strongly felt, we follow up the question, What does the sun do for us? It melts the snow, swells the buds on trees and bushes, starts the grass and pussy-willows. The children illustrate the story of *The Wind and the Sun;* sing songs of the sun, daffodils, and pussy-willows; model and draw the pussy-willows, and make pictures of the indoor flowers.

SPRING QUARTER

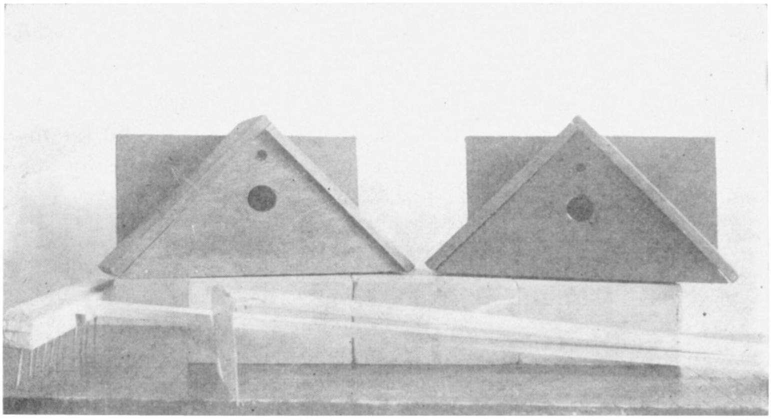
The activities of the spring quarter are centered mainly about what is happening out of doors.

Wind.—In early April the problem is to find out what the wind does for us. It helps in sailing boats, flying kites, drying clothes, and turning mills. The weather-vane shows the direction of the wind, and helps certain people to know when to do their work. The activities include making pinwheels of paper to play with out doors; making sailboats of wood to be sailed on the lagoon or fountain basin; cutting



A NAUTICAL PROBLEM

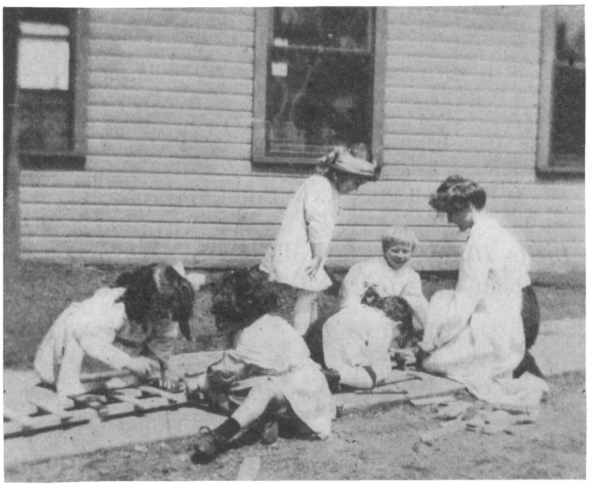
clothes of paper to hang on clothes-lines; washing paint cloths or doll-clothes and drying in the wind; folding small sailboats of paper; cutting, folding or drawing balloons and kites, and making weather-vanes of wood or heavy cardboard. The stories of *The Foolish Weather-Vane* and *Little Half Chick* are illustrated by drawings or models. We use songs about the wind, and Stevenson's poem, *The Wind.*



BIRD-BOXES AND GARDEN TOOLS

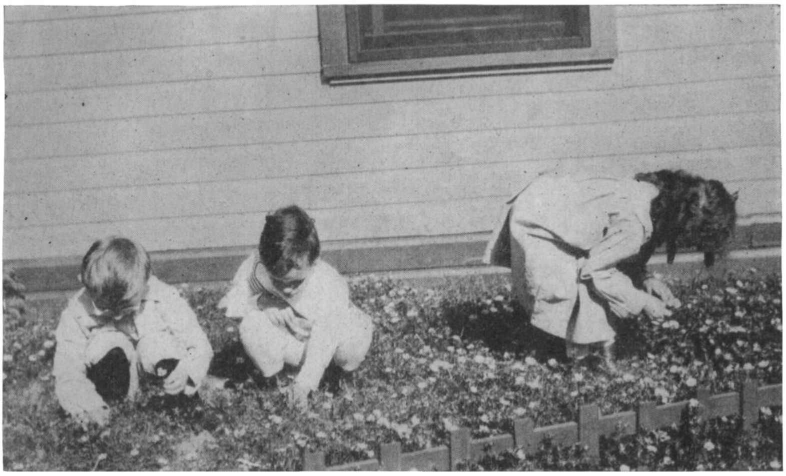
MAKING NESTS FOR THE PARK BIRDS

Birds.—We aim to become acquainted with some of the birds we see daily, particularly the robin, bronzed grackle, sap-sucker, red-headed woodpecker and yellow warbler. We see many more birds than these, and the children most interested learn to know some of them. We look for food, nesting-places, nests, and eggs. We listen for bird songs and calls; make use of stuffed specimens of birds in our room, and visit the Academy of Sciences. We use the stories *How the Robin's Breast Became Red,* and *The Origin of the Red-Headed Woodpecker.* As our experience enlarges we talk about the good birds do, the pleasure they give, and what we may do to attract them to our homes. The children draw, model, and paint nests, eggs, and birds; make bird-boxes of wood to take home; illustrate stories, and sing songs about birds.



BUILDING THE GARDEN FENCE

Flowers.—During the winter when the bulbs in the window-boxes are in blossom, we make pictures or models of them, and thus become acquainted with the paper-white narcissus, daffodil, and crocus. Later, we emphasize the tulip and dandelion, and any other flowers we may have a particular reason for wanting to know. These flowers are modeled, painted, and drawn. We use them for designs, or decorations for book covers or May baskets. We emphasize the colors and odors of flowers, first by actual experience and then by sense games. Sometimes we are able to trace the pollen the bees bring to the hive, particularly that of the oriental poppy and the dandelion. Suitable songs and stories help to strengthen these images.



COMPLETED FENCE AND BED OF PORTULACCA

Garden.—Gardening isn't a natural interest of little children, but digging is. We have gradually reduced the amount of real gardening to planting a bed of popcorn by the older group of children. This furnishes a crop to harvest in the autumn when they have entered first grade, besides being a good seed to handle in planting. The younger children have planted climbing beans, morning-glories, sunflowers, and portulacca about the lunch-room and printing-shop. The responsibility resulting from such planting is small, yet enough to initiate them into garden processes. The work includes making garden-stakes and labels, and, at one time, a garden-fence; laying out plan of corn-bed in sand-tray; drawing plan of same; staking and marking hills in the garden; spading and raking in preparation for planting; and weeding. We use songs, games, and finger plays to help build up the processes of simple gardening.

Buds and Leaves.—In the spring we watch their development through twigs brought indoors and the bushes and trees outdoors. We use the pussy-willow and twigs from the cottonwood, lilac, and oak. We draw and model the pussy-willow.

Butterflies, Moths, Dragonflies.—In the autumn we generally find the common woolly caterpillars and put them in a cage to watch for the winter house they make. Usually someone brings in the cocoons of the cecropia moth. We have had the chrysalises of the monarch

CLEANING THE YARD WITH THEIR OWN RAKES

and black-swallowtail butterflies and had both come out in the kindergarten. Children are unfailingly interested in this development of moths and butterflies, and to stimulate their observation, we make pictures of them by drawing or cutting, and model the cocoons. They gather, by conversation and observation, that butterflies obtain their food from flowers. We generally see many dragonflies in the spring, but do no more with them than call them by name, contrast them with butterflies, and refute the tradition that they sew up children's ears.

Earthworms and Ants.—We sometimes prepare a large glass jar with varying layers of soil, have the children put in earthworms, cover the jar to keep it dark, and watch the results. We have never had an ant-colony, but do notice both earthworm castings and ant-hills on our walks. The children are much interested in the way robins extract earthworms for their food.

Bees.—There is a hive of bees in the kindergarten room from early spring to November. These are placed in a south window, the lower sash of which is raised about four inches; an extra piece of wood is fitted under it, with an opening about a foot long and two inches high. From the hive to this opening, a runway is made of glass, which fits closely the exit leading outdoors. This furnishes opportunity to watch the bees as they go and come on their busy rounds. Under these conditions, bees afford the most normal indoor insect life we have observed. Most of the activities of the bees are too difficult for the children to follow, but they are greatly interested in watching the bees move about in the hive and fly to and from it. Whenever we find bees on flowers in the park, we claim them for ours. We do see them bring in the pollen, sometimes note the color of it, and trace its possible source. When the young bees are hatching, we place the trays containing them next to the outside of the hive, so the children can see some of these activities. The knowledge gained consists chiefly of the facts that bees make honey from flowers, live in hives, and are interesting creatures.

OUTCOME

Aside from the physical activities just stated, there are other gains from these simple beginnings of life-long interests. Gradually the children are increasing their power to attend; their observations are being defined; their sympathy and respect for plant and animal life is enlarged; and they have real joy in gathering the leaves, in finding the first opening buds, and in watching the robins build their nests. Nature interests are an important factor in leading the child away from himself out into the great life around him. Certainly, no subject in the kindergarten has greater possibilities for awakening wonder and laying the foundation for the seeing eye and the hearing ear.

CHANGE IN PROGRAM

A radical change has been made in the matter of group work in the kindergarten for the year 1917-18. Heretofore the program began with a period about thirty minutes in length, which was devoted to general exercises with the whole group of kindergarten children seated about the director. At such times there was singing, exhibits of toys, and other concrete materials; contributions by the children of their experiences outside of school; a talk about some phase of the subject forming the basis of the program, or a story. Following this, there was a period of twenty minutes for rhythmic exercises and games. Then the children were divided into groups, according to age and ability, and were cared for by different teachers. These teachers planned what should be done at the table, and chose the material with which to work. There were two of these group periods; the second one, being out of doors, afforded the opportunity for many excursions to the park. The handwork previously given as the result of this nature contact was worked out under the direction of the group teacher. There was opportunity for creative work by the children and real expression was afforded by this plan of work, but the teacher chose the general subject and the materials.

This year, we have adopted a plan of allowing the children to choose what they shall do, and the materials with which to do it, for a period varying from forty to sixty minutes each morning. Usually we have a general exercise, as formerly, when we come together for an interchange of ideas and experiences; but when the children go to their projects as soon as they arrive in the morning and are too interested to care to leave them, the general exercise may be delayed or omitted for the day. With such a plan of work, more material is about and more time than formerly is needed to put it away; for it is one of the rules that the children must assist in getting the room in order.

With the plan of allowing the children to choose what they shall do for the given period, it follows that the teachers are not making the demand that they express in some form their nature observations. The result is, we have much less of that type of expression than formerly. But what has happened has been very interesting. From the beginning, children have been bringing in nature materials even more than usual. We have talked about them and cared for them. We have needed the insect cage for the caterpillars and cocoons; we have pressed leaves, strung seeds, and have done some drawing on the blackboard. All of the marked seasonal changes have been as interesting as in other years. Because of the great amount of snow and severe weather, we have had occasion to accentuate more strongly the poems, stories, and songs about winter. Although there was a sample sled in the room, only one child wanted to make one, and that was not a success.

Heretofore, we have emphasized the bird-box when the birds returned in April. This year, early in January, a boy came in one morning and said he wanted to make a bird-box to take to his ranch in Montana. There are two sample bird-boxes in the room. The teacher, to whom the boy made known his wants, said she thought he would be unable to make a box such as these alone, and suggested a robin's shelter instead. The boy was satisfied with this substitute, and proceeded with his project. From time to time other boys have made these bird-shelters entirely on their own initiative. Recently a little boy, who had done very crude handwork, announced that he wanted to make a bird-box. Upon investigation it proved he didn't want to make the bird-shelter, but a bluebird-house. To convince the teacher as to just what he wanted, he got the sample box and showed her. After some talk on the ways and means of making it, it was settled that he should have the wood to work with; and the result has been a remarkable gain in power in handwork and appreciation for a piece of work well done.

The first signs of spring, the swelling leaf-buds and the "blossoming grass," as one four-year-old called the first showing of green grass, are really exciting.

The new regime has not been carried through an entire school year, but such experiences as these lead us to expect as much real appreciation and joy through nature contacts this year as by the method formerly used.